

LT251A

■ Features

- Operation by small magnet due to high sensitivity operating point < 30mT
- Combining a GaAs Hall device and an IC in a compact package (2.9 X 1.5 X 1.1mm)
- Wide operation temperature range obtained by GaAs Hall device (-20 to +125°C)
- Long life time due to noncontact-type

■ Applications

- FDD
- HDD
- Water meter
- Car stereo
- Micro switch, etc.

■ Absolute Maximum Ratings

(T_a=25°C)

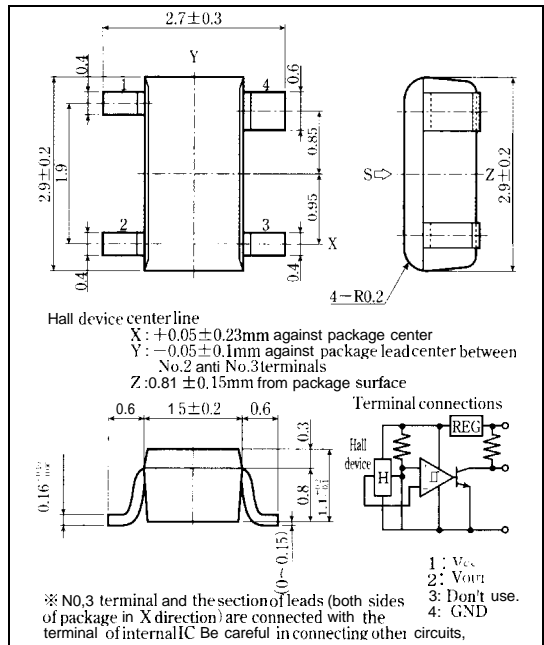
Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	18	v
Output voltage	V _{OUT}	18	V
Output current	I _O	5	mA
Power dissipation	P _D	100	mW
Operating temperature	T _{opr}	-20 to +125	°C
Storage temperature	T _{stg}	-55 to +150	°C
Soldering temperature*1	T _{sol}	260	°C

*1 Soldering time within 10 seconds

GaAs Hall IC for Noncontact Switch (Unidirectional magnetic field-type)

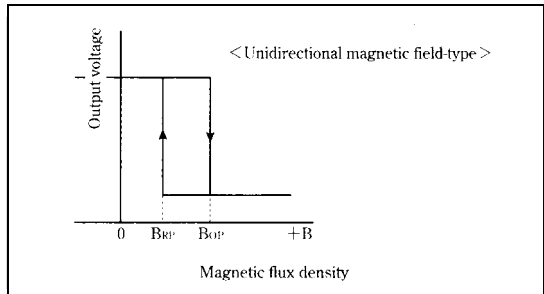
■ Outline Dimensions

(Unit : mm)



As for dimensions of tape-packaged products, refer to page 44.

■ Operating Explanation



■ Electrical Characteristics

(T_a=25°C)

Parameter	Symbol	Conditions	MIN.	m'	MAX.	Unit
Operating magnetic flux density	B _{OP}	V _{CC} = 16V	11	—	30	mT
	B _{RP}		10	—	29	mT
Hysteresis breadth	B _H		1	—	5	mT
operating voltage	V _{CC}		4.5	—	16	v
Supply current	I _{CC}	V _{CC} = 16V, B ≤ 10mT	—	—	10.5	mA
Low level output voltage	V _{lL}	V _{CC} = 16V, I _O = 4mA, B ≥ 30mT	—	—	0.4	v
High level output voltage	V _{OH}	V _{CC} = 16V, I _O = -100 μA, B ≤ 10mT	13.9	—	—	v
Output short circuit current	I _{OS}	V _{CC} = 16V	-1.55	—	-0.80	mA
Operating point temperature drift	ΔB _{OP}	V _{CC} = 16V, T _a = -5°C to +60°C	—	2.0	4.5	mT
		V _{CC} = 16V, T _a = -20°C to +80°C	—	2.5	8.0	mT

SHARP

Fig. 1 Operating Magnetic Flux Density vs. Supply Voltage

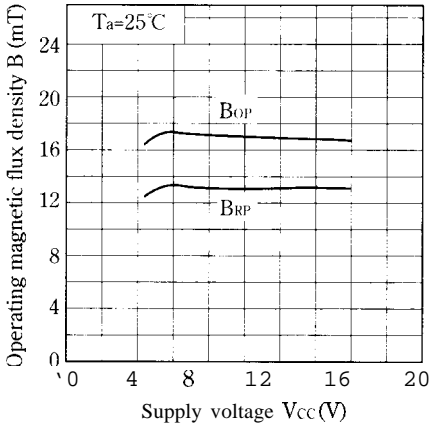


Fig. 2 Operating Magnetic Flux Density vs. Ambient Temperature

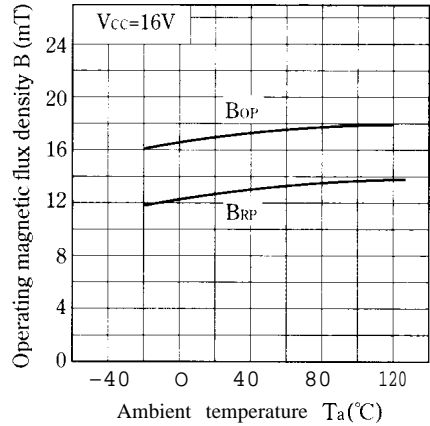


Fig. 3 Supply Current vs. Supply Voltage

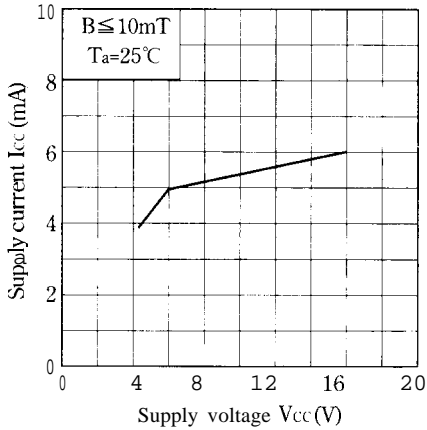


Fig. 4 Supply Current vs. Ambient Temperature

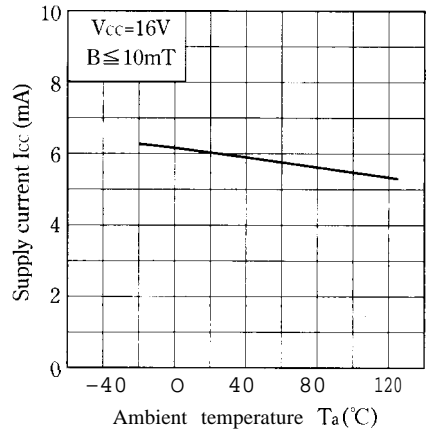


Fig. 5 Low Level Output Voltage vs. Output Current

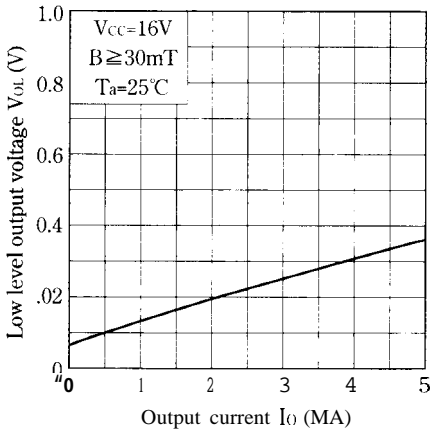


Fig. 6 Low Level Output Voltage vs. Ambient Temperature

